

R E M A R K S

Claims 3 and 5-12 are now in this application, and are presented for the Examiner's consideration.

Prior Art Rejections

Claims 1-10 were rejected under 35 U.S.C. §103(a) as being obvious from PCT Published Application No. WO 88/07448 to Sillars in view of U.S. Patent No. 5,081,926 to Rodi.

Claim 3

It is first pointed out that neither of these references teaches a method of printing wherein a length of a printed image is larger than a peripheral length of a largest of one of the printing cylinders.

Sillars describes the printing of quasi-random tables for bingo or other games. The elements of the tables are printed by different printing cylinders, the printing cylinders printing intervening rows of elements (see page 3, second paragraph), or the columns are arranged alongside one another (see page 3, third paragraph). The size of such a table does nevertheless not extend beyond the printing length of the largest of the printing cylinders, as can also be seen from Figs. 2 to 5 and Fig. 7. Moreover, Sillars has an object of producing a multitude of different tables, as is necessary for games like bingo.

Even though different rows and/or columns are printed, the length of the printed image is not larger than a peripheral

length of a largest one of the printing cylinders,

In this regard, previous claim 1 recited that a length of a printed image is larger than a peripheral length of a largest one of the printing cylinders, which is clearly not the case with Sillars.

Further, the present application deals with repeatedly printing the same image, as is usually the case when printing on a rotary printing press. This aspect is recited in prior claim 3.

However, Sillars does not disclose or suggest a printing method according to prior claim 3, wherein the printed image has an element that is identically repeated for each panel, and the step of printing includes the step of printing this element with a separate printing cylinder which remains constantly in an "on" position. As discussed in the example of the present application, frame 50 is identically repeated for each panel N, and printing cylinder 18 prints frames 50. In Sillars, the frame and data are printed by the same roller.

In this regard, claims 1, 2 and 4 have been canceled, and claim 3 has been rewritten in independent form, incorporating the limitations of claims 1 and 2 therein, to better distinguish from Sillars.

Further, the Examiner admits that Sillars does not disclose a shifting mechanism which shifts at least a duration of one turn of a printing cylinder and a step of "on" and "off" adjustment movements and a control unit.

For this reason, Rodi was cited. However, Rodi merely describes the use of movable applicator rollers for rapidly establishing an ink zone profile which usually occurs before the beginning of printing (see the Abstract). This is useful to reduce waste but does not make a difference concerning the image or the size of the image that is to be printed.

The idea of printing an image with a length larger than a peripheral length of the largest one of the printing cylinders of a rotary printing press is not anticipated by or rendered obvious from, or achieved simply by including the lift mechanism as taught by Rodi into the apparatus of Sillars.

Also, as with Sillars, Rodi does not disclose or suggest a printing method according to prior claim 3, wherein the printed image has an element 50 that is identically repeated for each panel N, and the step of printing includes the step of printing this element with a separate printing cylinder 18 which remains constantly in an "on" position.

Thus, even if combined as suggested, the present claimed invention of claim 3 would not be provided or suggested.

Therefore, this claimed aspect of the present invention is not disclosed or remotely suggested by Sillars or Rodi, taken individually or in combination.

Claim 5

Claim 5 has been written in independent form.

For reasons similar to those given above, it is submitted

that claim 5 is not obvious from the cited references. Thus, claim 5 recites that a length of a printed image is larger than a peripheral length of a largest one of the printing cylinders.

Claim 5 also recites the step of printing elements having a length of less than a peripheral length of the printing cylinder, as measured in a feed direction of the web, with a single printing cylinder, and timing "on" adjustments of this single printing cylinder such that the element printed thereby is inserted into the printed image in a predetermined position.

In order to clarify claim 5, this claim has been further amended by specifying that the element printed by the single printing cylinder overlaps at least two of the elements printed with different printing cylinders, which are mentioned in former claim 1. This has been disclosed in the present application for the special case that "the on and off periods of the printing cylinder DZ3 are time-shifted by one half period in comparison to the strokes of the other printing cylinders, so that the internal area 62 is printing in the center of the frame 60", referring to Figs. 3 and 4 in the penultimate paragraph on page 8 of the present application.

This aspect is nowhere disclosed or even remotely suggested by Sillars or Rodi.

Claim 6

This claim has been amended to include the limitations of canceled claim 4, and to now depend from claim 5. Therefore,

claim 6 adds further clarifying limitations of claim 5.

Claims 7-10

Claim 7 has been amended to add limitations of:

- a) the printing cylinders being individually slideably supported,
- b) the shift mechanism comprises a servomotor and a displacement sensor,
- c) the shift mechanism exerts large displacements during an operation of a cylinder exchange and smaller displacements during periodic shifting operations.

These features a) and b) are supported by the disclosure at page 5, lines 10 to 11, 14 to 15, and 18 to 20 of the originally filed application, respectively. The feature c) is supported by the description in the last paragraph of page 3 and at page 4, lines 8 to 10, where it is stated that, for achieving these displacements, a two-stage drive system may also be used.

The mentioned features are designed such that the length of the time needed for shifting the printing cylinder between the engaged and the non-engaged position is substantially smaller than the rotation period of the printing cylinder. This language is the subject matter of claim 8. See page 3, lines 19 to 21 of the present application for support. This allows, even in the case of high speed printing presses, the time needed for shifting to be negligible in comparison to the rotation period of the printing cylinder, so that the image elements printed by

different printing cylinders may be butted precisely and seamlessly and essentially without overlap. See page 3, lines 32 to 35.

None of these limitations are disclosed or even remotely suggested by Sillars or Rodi.

Accordingly, it is respectfully submitted that the rejection of claims 1-10 under 35 U.S.C. §103(a), has been overcome.

Claims 11 and 12 rejected under 35 U.S.C. §103(a) as being obvious from Sillars in view of Rodi and U.S. Patent No. 5,528,986 to Andersson et al.

The remarks made above in regard to Sillars and Rodi are incorporated herein. Andersson et al fails to cure the deficiencies of these references, as noted above.

Accordingly, for the same reasons given above as to claim 7, it is respectfully submitted that the rejection of claims 11 and 12 under 35 U.S.C. §103(a), has been overcome.

INFORMATION DISCLOSURE STATEMENT

The Applicant and those individuals involved in the preparation and/or prosecution of the above-identified Application have become aware of the following references which the Examiner may consider material to the patentability of the above-identified Application:

<u>U.S. PATENT NO.</u>	<u>PATENTEE</u>	<u>DATE</u>
3,921,519	ZIMMER	11/25/1975

PATENT NO.

2,248,158

COUNTRY

FRANCE

DATE

05/16/1975

Copies of the above references are enclosed.

Also enclosed is a copy of a Search Report from the European Patent Office in the corresponding European patent application which discusses the above references, and an English-language translation thereof. This satisfies the requirement for a concise explanation.

Please charge Deposit Account No. 07-1524 in the amount of \$180.00 for the late filing of this Information Disclosure Statement.

In addition, one PTO/SB/08A Form is enclosed, which lists the above references. It is requested that the Examiner initial this Form and return a copy thereof to the undersigned.

It is requested that the above-identified references be made of record in the present application.

Neither Zimmer nor any of the other prior art references disclose or suggest a printing method according to the former claim 3, wherein the printed image has an element that is identically repeated for each panel, and the step of printing includes the step of printing this element with a separate printing cylinder which remains constantly in an "on" position. Thus, Zimmer fails to cure the deficiencies of Sillars or Rodi.

Further, for reasons similar to those given above, it is submitted that claim 5 is not obvious from the cited references,

including Zimmer.

As to claim 7, Zimmer uses hydraulic piston cylinder mechanisms 23 or 88 to bring the printing cylinders into and out of contact with the material, and French Patent No. 2,248,158 discloses that the cylinders are lifted pneumatically.

Claim 8 describes a device that "comprises pneumatical control means for raising and lowering pairs of printing cylinder supports independently of each other." See the language "qu'il comprend ... l'une de l'autre", at page 11, lines 16 to 18 of the French patent. With hydraulic or pneumatic actuators, only one fixed displacement length is possible, which is contrary to the limitations in claim 7.

The servomotor driven shift mechanism of the present application has the advantage that very small displacements can be controlled exactly, and that large displacements can be also performed easily. To lift a printing cylinder off from the web to such an extent that ink is no longer transferred onto the web, a distance of a fraction of a millimeter is sufficient. Therefore, the shift mechanism can be adapted to operate very precisely and with a very short shifting time, as has been stated above. As an obvious result, standard printing cylinders or sleeve cylinders with printing areas which extend up to 360° of the circumference of the cylinder can be used for printing.

In contrast, the printing cylinders of Zimmer show large angular non-printing portions 18, which extend to 90° of the circumferences of the cylinders. The printing cylinders of the French patent show the same non-printing portions, referenced by numeral 4. From this, it can be deduced that the prior art shift

mechanisms are allowed to have, and probably do have, a large shifting time, because a printing cylinder can be raised or lowered during the time while only the non-printing portion is in contact with the web.

It is therefore submitted that the claimed printing press is not anticipated by or rendered obvious from any of the cited references, and the feature of the shift mechanism comprising a servomotor and a displacement sensor, thereby allowing short displacement moves in the periodic shifting operations and larger displacement moves in the case where a cylinder has to be changed, is also not obvious from the cited references.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

In the event that this Paper is late filed, and the necessary petition for extension of time is not filed concurrently herewith, please consider this as a Petition for the requisite extension of time, and to the extent not tendered by check attached hereto, authorization to charge the extension fee, or any other fee required in connection with this Paper, to Account No. 07-1524.

The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 07-1524.

In view of the foregoing amendments and remarks, it is respectfully submitted that Claims 3 and 5-12 are allowable, and

early and favorable consideration thereof is solicited.

Respectfully submitted,



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enclosures: one PTO/SB/08A Form
Two references
Search Report from the European Patent Office
and English-language translation